

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL
SOCIETY

MEETING OF OCTOBER 3, 1933

A regular meeting of the New York Entomological Society was held on October 3, 1933, at the American Museum of Natural History. President Ernest L. Bell presided, with twenty members and twelve visitors present.

Mr. Curran proposed Mr. W. S. Regan of 125 Cooper Avenue, Upper Montclair, New Jersey, for membership in the Society.

The meeting was then open to the members for discussion of their experiences while collecting during the summer.

Dr. Lutz exhibited a female *Phengodes* which he had taken at Interstate Park. When seen in the dark, luminescences appeared between the sclerites of the body which made the larva look like a string of green lights. This luminescence is due to the amount of water present in the insect.

Mr. Gertsch said that he had been well rewarded by collecting in Norwalk, Connecticut, and also on a three weeks' trip through the Shenandoah Valley and the Great Smoky Mountains where he had been very fortunate in procuring specimens of *Hypochalus thorelli*.

Mr. Bromley related some of his experiences in the Lower Rio Grande Valley of Texas where he was engaged in working with citrus fumigation in this new and rapidly growing citrus area. The hurricane of September 4 and 5 blew off the fruit in the Eastern Valley so that there was a crop of 1,500 instead of the anticipated 12,000 carloads of fruit. The majority of insects in this region, Mr. Bromley said, were noteworthy more for the discomfort than for the destruction they caused. Mr. Bromley witnessed the large migration of *Libythea backmannia* to the northeast, a migration which continued for more than a week. One of the most annoying insects which he encountered was the cicada, *Quesada gigis*, whose loud song prevailed all through the night thereby destroying sleep. The Pomerine ants found in dead mesquite trees are more venomous than the honeybee. A *Nectarina* wasp which builds a nest of paper, similar in construction to the wax nest of the white-faced hornet, was observed. The honey in the nest is good although strong. Mr. Bromley observed few grasshoppers in the Rio Grande Valley. The hurricane caused the disappearance of butterflies and cicadas.

Mr. Curran said that Mr. Bell and Mrs. Bell had done his summer collecting. He then exhibited the cancellation mark on the stamp of a letter from Venezuela. This cancellation was a mosquito, one wing of which was that of a *Sciara*, but the other of some unknown fly! In spite of this error, the cancellation was a symbol showing the importance of flies in this South American country.

Mr. Davis stated that while at Shark River Inlet, New Jersey, June 28, 1933, with Mr. Howard Cleaves, he had visited a colony of bees, *Anthrophora*

abrupta Say, situated in a nearby vertical cliff of rather hard soil. Some of the entrances were protected by fragile tubes sometimes two or three inches in length constructed of material brought from the interior of the nest. The tubes were generally incomplete and exhibited a narrow opening along the upper surface through which the progress of the bee in entering the nest could be easily followed. The tubes, therefore, even when present, offered but an incomplete protection to the nest, and as more than half of the nests were without them, they really did not appear to be of much importance. It was suggested that as in the case of some ant-mounds, they were merely the result of nest excavation. The photograph of the colony together with specimens of the bees determined by Mr. Herbert F. Schwarz of the American Museum of Natural History, and a book illustrating a colony of European *Anthrophora* were shown.

Dr. Horsfall said that he had spent his summer helping farmers remove spray residue from apples.

Mr. James M. Leonard exhibited a series of twelve photographs of a praying mantis depositing her egg capsule. The photos were taken at 10 minute intervals during the two hours required for the process. This most interesting and unusual group of photographs showed the form of the egg mass at each stage and the changes that took place in the insect and egg mass during the process.

Mr. Moennich remarked on the superior advantages of baiting. With this method he had obtained forty-two specimens of *Glischrochilus obtusus* at Alpine, New Jersey, by using a bait of diluted maple syrup.

Mr. Mutchler stated that he and Mr. Leng had spent the better part of the summer working to complete the Second Supplement to the Leng Catalogue of Coleoptera North of Mexico which is to be published by Mr. Sherman within the next few months.

Species of *Dermestes* had been put to good use by Dr. Ruckes during the summer. He had employed them to clean the meat particles from vertebrate skulls.

Mr. Safro mentioned the red legged ham beetle, which he had found in a shipment of copra this summer.

Mr. Sherman said that he and his family had had the pleasure of a visit from Mr. Fred Hadden and his charming wife while on a vacation from the Hawaiian Islands.

Mr. Wurster described some of his experiences in feeding *Paratenodera* females. It seems that the praying mantis will snatch at any moving object which it can overcome, and will then proceed to devour it no matter how highly seasoned with salt, pepper or Worcestershire sauce.

Mr. W. S. Regan remarked that he had taught Mr. Bromley how to collect insects at the Massachusetts State College ten years ago. Since that time Mr. Regan has been working on bait-trapping for codling moths in an effort to establish the relation between the extermination of the moth and the worm activity in the fruit. He uses a bait of high grade molasses with yeast to start fermentation.

Mr. Volek of California expressed his pleasure in being present at a meeting of the Society.

There followed a discussion of the habits of the praying mantis by Mr. Wurster, Mr. Bromley and Dr. Ruckes.

ELIZABETH S. ENGLEHARDT, *Secretary.*

MEETING OF OCTOBER 17, 1933

A regular meeting of the Society was held on October 17, 1933 at the American Museum of Natural History. President Ernest L. Bell presided with twenty-four members and twenty visitors present.

Mr. Hall gave his report as Treasurer for October 1, 1933. He reported \$1,647.88 on hand as of Jan. 1, 1933, and \$1,139.33 on hand as of Oct. 1, 1933.

Mr. W. S. Regan was elected an active member of the Society.

Mr. Curran made recommendation to incorporate in the By-Laws the statement that any application for membership in the Society must be accompanied by one year's dues. On motion, this matter was referred to the Executive Committee.

It was voted that the secretary should inform those members of the Society in arrears for more than two years on Jan. 1, 1934, that they would be suspended from membership.

It was voted to omit the meeting scheduled for the first Tuesday of November.

The program of the evening "A Symposium on Faunal Zones in North America" was then opened by Dr. Lutz. Dr. Lutz gave a review of his paper on the geographic average of a species, published in the Museum Bulletin for 1922. In this paper, Dr. Lutz develops a method for showing geographical distribution of any fauna, on a mathematical basis. This method is based on the life zones of Allen who made a primary division along the one hundredth meridian and then determined his life zones on the humidity basis.

Dr. Melander, the next speaker in the symposium, spoke on "The Life Zones of the North West." From his observations in the state of Washington, Dr. Melander concludes that altitude and climate are not the only factors responsible for the various life zones of the state. He found that it is the differences of rainfall in the same altitude, longitude and latitude that make for the differences in fauna and flora. Dr. Melander then showed some interesting slides of the type of country typical of the various zones.

Dr. Ruckes then spoke on the "Upper Sonoran and Lower Sonoran Zones of New Mexico." Dr. Ruckes stressed the importance of rainfall in creating the life zones of the state of New Mexico which has its dry season during the winter and its wet season during the summer months. Dr. Ruckes concluded his talk with slides showing the faunal areas of New Mexico.

Dr. Creighton brought the program to its conclusion with a discussion of the life zones in the east and southeast of the United States. From the standpoint of floral distribution, the life zones are distinct in this area. Dr. Creighton found, however, that the distribution of the various species of ants in this area invalidates the life zone theory for faunal distribution. This is

due in part to the results of glaciation; and in part to the influx of numerous species from the Sonoran Zone, the Alleghenian Zone and the Tropical Zone.

After a general discussion on the somewhat controversial content of Dr. Creighton's paper, the meeting was adjourned.

ELIZABETH S. ENGLEHARDT, *Secretary*.

MEETING OF NOVEMBER 21, 1933

A regular meeting of the N. Y. Entomological Society was held in the American Museum of Natural History on November 21, 1933. President E. L. Bell presided with eighteen members and eighteen visitors present.

The members were informed of the death of Professor C. F. Curtis Riley who died in July, 1933.

It was moved and seconded that the resignation of W. J. Chamberlin be accepted with extreme regret and that the secretary notify him to this effect.

The speaker of the evening, Mr. George P. Engelhardt, then gave a very interesting address on "Biological Explorations in the North and South West." Using the maps of the region, Mr. Engelhardt described his field investigations in Oregon, Washington, Idaho, and in the southern and eastern parts of Utah. The Stein Mountains and the arid regions surrounding this range in southeastern Oregon were the first objectives. Mr. B. G. Thompson, Mr. John Davis, and Mr. Kwan Lun Wong, all of Corvallis, were Mr. Engelhardt's companions on this first trip by motor. The mountains proved to be inaccessible because of snow but the collecting on the western slope in the canyon of the Donner and Blitzen River was very good. Mr. Engelhardt was impressed with the contrasts of scenery that may be seen in one day's travel in the west. One rides through "bleak, barren country in the morning, snow-covered mountain passes at noon, and vast, shady forests and verdure-clad valleys before sunset." In Washington, Mr. Engelhardt travelled with Dr. Melville H. Hatch of Seattle, and also with Mr. Joseph Wilcox, specialist on robber flies, and Mr. S. E. Crumb, authority on cut worms, both of Puyallup. In a trip over the Cascade Mountains, new life histories of clear wing moths and captures of many other insects rewarded their efforts, particularly at White Swan, near Kakima, and also on their return through the Naches Pass.

Mr. Engelhardt explored the Snake River Canyon with Mr. J. F. Gates Clarke of the the Department of Zoology at the State College in Pullman. Here over-cultivation has obliterated the original prairie flora just as on the mountain slopes in the west, over-grazing has obliterated the native vegetation.

Mr. E. W. Davis, of the U. S. Bureau of Entomology, was Mr. Engelhardt's guide and companion on a trip through southern Utah. Mr. Davis is in charge of the control of sugar-beet insects and is constantly checking up on the distribution of the small leafhopper, *Eutettix tenella*, by which the virus disease known as curly-top is transmitted to the sugar-beet plants. In Utah, "splendid highways are fast giving access to colorful canyons,

natural bridges and surprising monuments, hitherto hidden in mountains and deserts." Dr. Vasco Tanner, of Brigham Young University, was host to Mr. Engelhardt at the University camp at Timpanogus Mountain in the Wasatch Mountains.

It was found that "deserts in midsummer are poor places for collecting, but occasionally one does capture a prize." Mr. Engelhardt summed up the biological aspects of his trip, as follows:—

"For studies of the distribution of species, their variations and geographical races, the Aegeriidæ or clear-wing moths offer opportunities equaled by few other families of insects. Their larval habits, with very few exceptions, are limited to one or a few closely related food plants and to some particular part of the plant. Investigations of this kind have shown that species heretofore considered as distinct are in reality only forms or geographical races of one species, whereas others, which have been united because of similarity in appearance are in reality widely separated biologically."

Mr. Engelhardt illustrated, on a map, the willow and poplar borer *Paranthoene dolli*, arranged to show its various geographical races as they have become established on the North American Continent, differing widely in colors, but unseparable because of structural characters.

Another illustration, similarly arranged, showed the North American clematis root borer of the genus *Alcathæ*, which from two species, one in the east and another in the west, have now been increased to four species—one in the east and three in the west—all exhibiting great similarity in color patterns, yet divisible by definite structural characters.

Mr. Engelhardt also exhibited a box of some fifty specimens of the Pacific Coast wild gourd borer, *Melithis gloriosa*, one of the largest and most beautiful of the North American clear-wing moths. In conclusion, Mr. Engelhardt said that the season of 1933 would stand out as one of the most successful ones for him in many years and that he had never been privileged to travel with more congenial and more helpful companions.

E. S. ENGLEHARDT, *Secretary*.

MEETING OF DECEMBER 5, 1933

A regular meeting of the Society was held on December 5, 1933, at the American Museum of Natural History; President Ernest L. Bell in the chair with twenty-one members and nine visitors present.

The Executive Committee presented its report regarding an amendment to the By-Laws of the Society relative to applications for membership in the Society being accompanied by dues for one year in advance. The Executive committee recommended, for action by the Society: that the first sentence of Article XIV, now reading "All candidates for membership must be proposed by an active member at a regular meeting" be amended by adding to that sentence the following words: "and all applications for membership must be accompanied by dues as provided in Article XV."

On motion of Dr. Curran the following clause was added to the change

in Article XIV as recommended by the Executive Committee: "and all applications received on or after November 1 shall be accompanied by dues for the following year."

Mr. Curran moved that because of the cost of publishing the JOURNAL the price for back numbers should be increased from two dollars to three dollars a volume and that the price for each quarterly issue should be seventy-five cents. The motion was seconded and carried.

Miss Irene D. Dobrosky then gave a very interesting paper on "Collecting Parasites in the Philippines," an abstract of which follows.

ELIZABETH S. ENGELHARDT, *Secretary*.

COLLECTING PARASITES IN THE PHILIPPINES

IRENE D. DOBROSKY

The importation of parasitic insects into the Hawaiian Islands was started in the last century and has been most successful both biologically and commercially. The two main crops of the Islands are sugar-cane and pineapples. These are grown year after year, on the same ground, in areas covering many square miles. As a result of this concentrated and intensive culture, the insects pests of these crops find conditions ideal for rapid spread and multiplication. But this also holds true for the parasites of these pests, therefore, biological control is very effective, as well as very economical in the long run.

In 1930 the Experiment Station of the Hawaiian Pineapple Cannery Association discovered that the pineapples were suffering from a virus disease which was being carried from plant to plant by the onion thrips, *Thrips tabaci*. Dr. Chapman, the director of the Station, decided to import parasites to control this pest. There are on record only about a half dozen cases of parasites bred from thrips. Fortunately there are two records of parasitism of the onion thrips. In 1911 Russell reported that *Thripoctenus russelli* was a parasite of the bean thrips, *Hercotothrips fasciatus*, of *Thrips tritici*, and *Thrips tabaci*. This parasite was imported from California to Hawaii but it was not possible to make it parasitize the onion thrips there. In 1923 there was a report from Java of the parasitism of *Thrips tabaci* by *Thripoctenus brucei*.

On the strength of this report from Java, it was decided to hunt for the parasite in the Philippines. The writer was sent there and landed in Manila on May 19, 1931. Headquarters were established at the Bureau of Science in Manila, and later at the Agricultural College which is 44 miles south of Manila. A parasite was found on a thrips inhabiting the bean plant. This thrips was identified later by Moulton as *Taeniothrips longistylus* and the parasite was described as a new species, *Thripoctenus vincetus*, by Gahan. The life histories of both these insects were worked out in the course of breeding the parasites for shipment to Hawaii. The most serious problem encountered was that of shipping. The pupal stage of the parasite was the only stage in which it could be shipped. This period lasted for 12 days in

the Philippines. The trip from the Philippines to Hawaii took 19 days. After several unsuccessful trials of shipping the pupæ, a half-way station was made in Kobe, Japan, which is exactly 12 days' journey from Manila. This arrangement proved satisfactory. The work had to be discontinued suddenly as a result of the serious financial condition of the pineapple industry. A final shipment was brought to Honolulu under the personal supervision of the writer, with the aid of Wardian cages brought on ship-board by a Japanese entomologist at Kobe. The parasite was not found to attack the onion thrips. Specimens were liberated near pineapple fields in the hope that they would find suitable hosts.

MEETING OF DECEMBER 19, 1933

A regular meeting of the Society was held on December 19, 1933, in the American Museum of Natural History. President Ernest L. Bell presided with twenty-four members and twenty-five visitors present.

The Amendment to Article XIV of the By-Laws of the Society was adopted as read. With this amendment Article XIV now reads:

“ All candidates for membership must be proposed by an active member at a regular meeting and all applications for membership must be accompanied by dues as provided in Article XV, and all applications received on or after November 1 shall be accompanied by dues for the following year. They shall be elected at the following regular meeting by an affirmative vote of two-thirds of the members present, or by ballot if demanded, in which case three negative votes shall exclude the candidate from membership.”

Mr. Curran moved to reconsider and cancel the motion made at the last meeting, which motion having been passed concerned the raising of the selling price of back numbers of the JOURNAL. The current motion was then duly seconded and passed.

President Bell announced that the Nominating Committee would consist of Mr. Curran, Mr. Safo and Mr. Davis.

Dr. J. M. Walter opened the program of the evening on the “Dutch Elm Disease” with a paper entitled “Concerning the Disease and the Organism.” The symptoms of the disease are: a sudden wilting at the top of the branches and discoloration of the water vessels. It is now conceded that the disease is caused by the yeast-like fungus, *Graphium ulmi*, which is easily recognized in culture by the budding head of the spores. The disease is a true wilt affecting the water system of the plants. It is estimated that the disease covers approximately 1,500 square miles in New Jersey, New York and Connecticut. In Orange and East Orange, where the infestation is known to be greatest, it does not affect one per cent of the total population of elms. To find all infected trees would be an impossible task but as trees are found they are removed and destroyed before the new growing season begins. The pathological and entomological aspects of the disease show that it must be checked within the next season of 1934 in order to prevent damage to the elms of New England.

Because of governmental regulations Dr. W. D. Buchanan was unable to give his paper on the "Relation of Insects to Its Spread" as the second part of this program. Instead, Dr. Buchanan spoke in a general way on the "Relationship between Insects and Plant Diseases." Dr. Buchanan said that the fields of entomology and plant pathology are now becoming united. He then spoke on the relation of thrips to the spread of the bacterial diseases of beans.

Following considerable discussion of these two papers, the meeting was adjourned.

ELIZABETH S. ENGELHARDT, *Secretary.*

MEETING OF JANUARY 2, 1934

The annual meeting of the Society was held on January 2, 1934, in the American Museum of Natural History. President Ernest L. Bell presided with nineteen members and fourteen visitors present.

The Nominating Committee presented its report as follows:

President: A. L. Melander
Vice-President: Herbert F. Schwarz
Secretary: Elizabeth S. Engelhardt
Treasurer: Gaylord C. Hall
Librarian: Frank E. Watson
Curator: A. J. Mutchler

Executive Committee:

Wm. T. Davis
 F. E. Lutz
 E. L. Bell
 Herbert Ruckes
 Henry Bird

Publication Committee:

H. B. Weiss
 C. W. Leng
 J. D. Sherman, Jr.
 C. E. Olsen

The report was accepted as read and on motion the nominations were closed.

On motion, the By-Laws were suspended and the secretary instructed to cast an affirmative ballot for the election of the officers and committees as presented in the above report.

In the absence of Dr. Melander, Mr. Schwarz took the chair.

On behalf of the society, Dr. Ruckes expressed its deep gratitude to Mr. Bell for his untiring efforts during his term of office as President.

Mr. Davis stated that the tropical cockroach from a fruit store, received last April, when it was quite small, matured during the latter part of the

summer and died on December 9, 1933. It was ill for several days and finally could move but feebly the tarsal joints on one of its forelegs. The glossy brown specimen was shown, the tegmina expanding two and seven-eighths inches. The species is known as *Nyctobora noctivaga* Rehn and is figured and described as being introduced with bananas and other tropical fruit both by Dr. Blatchley in "Orthoptera of Northeastern America," page 91, and by Prof. Morse in "Orthoptera of New England," page 319.

Dr. Curran opened the discussion of the topic "Faunal Regions in North America." Dr. Curran spoke on the Life Zones of Canada. The Arctic Zone of insects is limited to that area over which salt winds blow. Distribution in this zone is determined by temperature. There must still be salt in the air for the Hudsonian Zone while the Canadian Zone is inland and not touched by the salt winds. In the case of the latter zone it is difficult to explain the similarities in the desert fauna of British Columbia and that of Arizona. In closing, Dr. Curran said that it is difficult to classify into zones those insects living along indefinite edges of the various zones.

Dr. Ruckes spoke of the species which have become isolated in Central Asia and the Gobi Desert. Here humidity is the primary condition.

Dr. Hatt, speaking as a mammalogist, said that mammals do not follow the plant zones closely and that it is necessary therefore to avoid the use of Life Zones in determining and discussing mammal distribution.

Prof. J. C. Bradley, of Cornell University, expressed his interest in the discussion and his pleasure in being present.

Dr. A. E. Brower, of Bar Harbor, Maine, expressed pleasure in being present at a meeting of the Society and said that in his opinion faunal regions could be used in a general way but too much emphasis must not be put on them.

Dr. Curran observed that habitat itself will limit a species within the zone. There followed a general discussion by Messrs. Engelhardt, Davis, Bell, and Gertsch.

ELIZABETH S. ENGELHARDT, *Secretary*.

MEETING OF JANUARY 16, 1934

A regular meeting of the Society was held on January 16, 1934, in the American Museum of Natural History. President A. L. Melander presided. There were twenty-five members and thirty-seven visitors present.

The following committees for 1933 were reappointed for 1934:

Program Committee:

C. H. Curran, H. B. Weiss, J. L. Horsfall

Auditing Committee:

E. I. Huntington, E. K. Schwarz, E. R. P. Janvrin

Field Committee:

A. L. Nicolay, Herman Moennich

Delegate to the N. Y. Academy of Sciences:

Wm. T. Davis

Mr. Hall read his annual report as Treasurer. The Society had on hand on Jan. 1, 1934, \$1,047.87, as against \$1,647.88, on Jan. 1, 1933. The receipts for the year 1933 were \$1,289.30, and the expenditures were \$1,889.31. The Society has 104 Active Members, eight Life Members and one Honorary Member.

The Treasurer's Report, audited by the Auditing Committee, was accepted as read.

Mr. Schwarz opened the program of the evening on "Panama and Northern Colombia." He spoke of his experiences in collecting bees on Barro Colorado Island in Gatun Lake of the Panama Canal. Because of the few natural clearings, collecting is difficult and about seventy species of bees have been found thus far on the island; one third of these are social bees, Meliponidæ, and the rest solitary bees. Mr. Schwarz obtained a large series of nocturnal bees of the genus Megalopta. The study of the flora visited by these nocturnal bees is very interesting. Mr. Schwarz spoke of the essential differences between the nest-building habits of the stingless bees, Meliponidæ, found in the tropics, and those of our own honey bee, Apidæ, of the Old World.

Mr. Huntington then said a few words in regard to collecting Rhopalocera in the tropics. He has found that the wet season and the presence of attractive flowering shrubs were both necessary for successful butterfly collecting in Panama and in Northern Colombia. Mr. Huntington then showed a series of very interesting slides, and movies of the country of Panama and Northern Colombia.

ELIZABETH S. ENGELHARDT, *Secretary.*